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10/615,404	07/09/2003	Atsushi Onoe	4105-20	7950

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EXAMINER

DINH, TAN X

ART UNIT	PAPER NUMBER
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2653

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/615,404

Applicant(s)

ONOE ET AL.

Examiner

TAN X. DINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-24 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

1) Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2) The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. The following title is suggested:

APPARATUS FOR RECORDING INFORMATION DATA IN TO A FERROELECTRIC  
RECORDING MEDIUM.

3) The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the two dielectric material layer located on first side of substrate and on second side opposite to first side (claim 10 ) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." . If a drawing

figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4) Claims 16-24 are rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "recording/reproducing" (claims 16-24) render(s) the claim(s) indefinite since it was not clear what applicant intended to cover between the recitation "recording" or "reproducing". The resulting claim(s) do not clearly set forth the metes and bounds of the patent protection desired.

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5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

6) (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7) (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8) Claims 1,3,6-9,11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by KASANUKI et al ( 5,481,527 ).

KASANUKI et al discloses a dielectric recording medium, as claimed in claim 1, comprising:

a substrate ( Fig.1, 5 and figure 5d, 51 );

an electrode disposed on the substrate ( Fig.1, electrode layer 4 ); and

a dielectric material disposed on the electrode, wherein polarization directions of the dielectric material are set so as to

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be aligned in predetermined directions ( Fig.2, ferroelectric layer 3, polarization direction 22 ).

As to claims 3 and 8, KASANUKI et al shows dielectric recording medium is disc-shaped ( column 8, lines 24-33 ).

As to claims 6 and 7, KASANUKI et al shows linear tracks for recording data ( Fig.1, the medium is scanned in X-Y directions ).

As to claim 9, the space between tracks are inherent in every recording medium.

As to claims 11 and 12, KASANUKI et al shows dielectric material is a ferroelectric material ( abstract ) of  $\text{LiTaO}_3$  ( column 7, lines 29-36 ).

9) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10) This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the

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examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11) Claims 2,5,10 and 13-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over KASANUKI et al ( 5,481,527 ).

KASANUKI et al discloses all the subject matter as claimed in claim 2, *except* to specifically show that the polarization direction in data area are set in one direction. However, the polarization direction in ferroelectric layer can be set at any desirable direction by performing initializing process. Thus, one of ordinary skill in the art at the time of the invention was made would have been motivated to set the polarization direction in data area in KASANUKI et al's ferroelectric recording medium as claimed.

As to claim 5, to set the polarization direction of ferroelectric layer by applying an electric field stronger than

coercive electric field is inherent in every dielectric recording method.

As to claim 10, to use a single or multiple dielectric layers in any recording medium is old and widely used in the recording art.

KASANUKI et al discloses a dielectric recording apparatus as claimed in claims 13-19, comprises a substrate ( Fig.1, 5 and figure 5d, 51 ), an electrode disposed on the substrate ( Fig.1, electrode layer 4 ), a dielectric material disposed on the electrode, wherein polarization directions of the dielectric material are set so as to be aligned in predetermined directions ( Fig.2, ferroelectric layer 3, polarization direction 22 ), tracks for recording information data ( tracks are inherent in every recording medium ), recording and reproducing head for recording or reproducing the data on the tracks ( Fig.2, 2 and 1 ), a control information detection device for detecting the control information recorded in the control information area on the basis of an output signal of the recording/reproducing head ( Fig.1, 12 and 11 ) and a control device for controlling the data recording process or the data reproducing process on the basis of a detection result of the control information detection device ( Fig.1, controller 10 ), except to specifically show a control area for storing the control information. It would have been obvious to someone within the level of skill in the art at the time of the

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invention was made to have a control area in KASANUKI et al's ferroelectric recording medium. The rationale is as follows: the control area is old and widely used in the art, for example, control area can be located in lead-in area for storing the management information (TOC) for controlling the operation of the recording or reproducing. Therefore, one of ordinary skill in the art at the time of the invention was made would have been motivated to use a control area in KASANUKI et al's ferroelectric recording medium for storing control information as claimed.

As to claims 20-22, the features of the control device performs tracking control on the basis of an amplitude image level of a reproduction signal outputted from the recording/reproducing head, the tracking control is performed by wobbling or on the basis of a phase of a recording pit included in a tracking pit signal in a reproduction signal outputted from the recording/reproducing head are inherent in KASANUKI et al's ferroelectric recording medium apparatus.

As to claim 23, the feature of using recording/reproducing head reproduces the information or data recorded in the dielectric material according to a scanning nonlinear dielectric microscopy method is old and widely used in the art ( see the front page of KASANUKI et al's patent ).

As to claim 24, KASANUKI et al shows the head is provided with electrodes ( Fig.1, probe electrode 1 ).

12) Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. ( See form PTO-892 attached herein ).

Applicant is reminded that in amending in response to a rejection of claims ( if the rejection involves with any applicable arts ), the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objection made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR §1.111(c).

14) Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAN XUAN DINH whose telephone number is (571)272-7586. The examiner can normally be reached on MONDAY-FRIDAY from 8:00AM to 5:00PM.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**TAN DINH**  
**PRIMARY EXAMINER**

September 2, 2005